

are to be satisfied always. As a matter of fact, the problems in which Brillouin's conditions are satisfied are those which have the greatest bearing on aerodynamical research. Further, Brillouin's conditions can be used to elucidate the rather puzzling question of the difference between barriers which are defined by the same mathematical curves, but of different extents, as *e.g.* circular barriers of different angular extents.

These two volumes can be highly recommended to all who are interested in recent developments in the mathematics of two-dimensional hydrodynamics.

S. BRODETSKY.

Our Bookshelf.

Register zum Zoologischen Anzeiger. Begründet von J. Victor Carus. Herausgegeben von Prof. Eugen Korschelt. Band xxxvi.-xl., und *Bibliographia Zoologica*, vol. xviii.-xxii. Pp. iv+695. (Leipzig: Wilhelm Engelmann, 1922.) 280 marks.

ALL who have had occasion to use the bibliography which is issued with the "Zoologischer Anzeiger" know that much trouble and loss of time are involved in consulting the volumes not yet indexed in one of the five-yearly "Registers." They will welcome, therefore, this belated volume, which indexes, mainly, the papers published from 1909 to 1911, including also a few from 1912 and a good many of earlier date which had previously escaped notice. It is compiled according to the same plan as its predecessors. Each paper is indexed under its author's name, with an abbreviated title and a citation of the volume and page of the bibliography where the full reference will be found. There are also cross-references under systematic names where these are mentioned in the title, or in the brief notice appended to the entries in the bibliography, and all new generic names are separately entered.

It was the opinion of Herr Heinrich in Mr. H. G. Wells's story of "Mr. Britling" that "the English do not understand indexing." It may be only because of this national defect that we find the plan of the "Bibliographia Zoologica" cumbersome and inconvenient as compared with that of our own "Zoological Record." The volume before us is only an index to an index. It requires us to take down at least one other volume from the shelf before we can find the reference we want. It includes neither a subject index nor a geographical index, and the systematic references are far from adequate for the needs of the systematist. All bibliographies, however, are useful, if only because none of them is perfect, and certainly no zoologist can afford to neglect the "Bibliographia Zoologica." At the present time, when the obstacles to the international diffusion of knowledge are only slowly being removed, the need for such works and the difficulties in the way of compiling and publishing them are alike great. It is to be hoped, therefore, that this volume will soon be followed by others cataloguing the literature of more recent date.

W. T. C.

Report of the Canadian Arctic Expedition, 1913-18. Vol. xii.: *The Life of the Copper Eskimos.* By D. Jenness. (Southern Party, 1913-16.) Pp. 277. (Ottawa: Department of the Naval Service, 1922.) 50 cents.

THE report of the Canadian Arctic Expedition, 1913-18, is planned to include at least sixteen volumes. This, the ethnographical volume, is the work of Mr. D. Jenness, a graduate of the University of New Zealand, who received his anthropological training at Oxford, and is already known as the author of an important book entitled "The Northern D'Entrecasteaux." Mr. Jenness lived for some years in the tents and snow-houses of the Eskimo, and though he says little of his personal difficulties, the companionship of his Eskimo hosts and their strange food must have been a trying experience. With the help of a devoted missionary, the Rev. H. Girling, who unfortunately died of pneumonia at Ottawa in 1920, he has been able to prepare a singularly valuable account of life in all its phases among the Copper Eskimos, whose headquarters are on the Coppermine River. Fortunately for them, this land lies in the track of the Great Caribou migration when the herds move northward in the spring. They are then able to collect stores of meat and skins, and from this and the seals and fish, which are abundant, their wants are supplied. Formerly their hunting was done with bows and arrows, but these are now replaced by rifles, and it would be well for the Canadian Government to consider whether the use of improved weapons should not be controlled in the interests of game preservation.

The book is full of curious facts and is illustrated by photographs and maps. "With the influx of traders and missionaries into the country the conditions of life are fast changing. Famine looms less in the foreground, but in its place European diseases are threatening the health of the communities, and bid fair to rival all other causes in their effect on the death-rate." The suggestion that a period of quarantine and medical examination should be enforced on all strangers entering the Eskimo territory certainly deserves serious consideration.

The Scope of School Geography. By Dr. R. N. Rudmose Brown, O. J. R. Howarth, and J. Macfarlane. Pp. 158. (Oxford: Clarendon Press, 1922.) 5s. 6d. net.

THE authors have briefly reviewed the scope of school geography, maintaining two dominant themes throughout, one the essential unity of the subject, the other the scientific character of its data and its methods. "Geography, properly speaking, has a definite viewpoint of its own and is not a mosaic of loans from other subjects." "The teaching of geography is no less the work of a specialist than the teaching of chemistry or history."

The authors have adhered, and for school purposes perhaps correctly, to the statement that geography may be regarded as the interaction between man and his environment; but even for the purpose of this book it might have been desirable rather to have stated the broader and deeper truth that geography has as its field the distribution of the interrelations of many phenomena of which human activities form but one.

In the chapters dealing with meteorology, biology, oceanography, and economics the relations of these subjects to geography and the material which geography can and must derive from them for its own study is fully discussed. On the subject of maps and map-reading the book contains excellent advice. "The practical study of maps must entail the art of map-reading." "The map must be interpreted."

Many will disagree with the authors' application of the term historical geography. Some historical events depend for their complete interpretation on a knowledge of geography, but this is not historical geography; it is merely history fully understood. It is possible, however, in theory at least, to reconstruct for each region the geography of past epochs and to see for that area not merely the evolution of its history, but what is much more comprehensive, the evolution of its geography. This is historical geography.

The book should do much to remove the many anomalies which exist in the school study of the subject.

Within the Atom: A Popular View of Electrons and Quanta. By John Mills. Pp. xiii + 215. (London: G. Routledge and Sons, Ltd., n.d.) 6s. net.

WHAT can a scientific reviewer say about books like this on "popular science"? Mr. Mills, who has quite a competent knowledge of his subject, sets out to initiate those who have no knowledge of physics and chemistry (and apparently no intention of acquiring it) into the mysteries of modern atomic theory. Of course the task is utterly impossible. Scientific theories serve mainly to explain facts, and those who have no knowledge of those facts can grasp little of their real meaning. Such satisfaction as they can obtain must be wholly different from that of the earnest student, who, even if he admits the morality of an attempt to delude the laity into the belief that they can appreciate scientific work without serious study, can never be in a position to judge whether an author has been successful in tickling the palates of his readers in the manner they desire.

However, from the sale of similar works we imagine that there are some who will appreciate the mixed fare set before them. Very mixed it is, ranging from a conversation (in the spirit, but not the style, of the celestial dialogues of Faust) between the author, an electron, energy and the reader to a more or less sober discussion of the difficulties of interpreting X-ray spectra. Indeed we find a certain inconsistency in our author's attitude; if he is prepared to make such a concession to sensationalism as to assert that the nucleus is smaller than the electrons which it contains, he need not have boggled over many quite minor difficulties which seem to us to occupy a disproportionate space. But then, as we said, we are clearly not in a position to judge.

Süd-Bayern. Von R. H. Francé. (Junk's Naturführer.) Pp. v + 423. (Berlin: W. Junk, 1922.) M. 32 and 150 per cent "Valutazuschlag."

It is pleasant to think that the State of Bavaria was not dismembered by the great European peace, and we regret that Dr. Francé's scientific guide-book could not extend a little northward, so as to include the palaeontological treasures of Eichstätt and the cauldron-

subsidence of the Ries. But the finest landscapes of the country await the traveller across the southern glacial plain. There is much, indeed, to detain him on the "Niederterrassenschotter" itself. Dr. Francé calls attention, for example, to the forest of Ebersberg, within easy reach for any botanist who visits Munich. Here the climatic change in modern Germany may be traced in the decay of the giant oaks in the eighteenth century, in the subsequent dwindling of the beeches, and in the present predominance of conifers, under which wild tulips grow. The site of Munich raises the puzzle of its apparent extinction in Roman times, though Roman roads run through it, based on predecessors built by Celtic engineers. The rapid rivers are themselves worth watching, as they stream from the Alps across the glacial deltas of the plainland. With this book as a companion, the naturalist will finally cross the old lake-floor to Partenkirchen, and will stand under the crags of the Wetterstein well content.

G. A. J. C.

In the Heart of Bantuland. By Dugald Campbell. Pp. 313. (London: Seeley, Service and Co., Ltd., 1922.) 21s. net.

MR. CAMPBELL provides his readers with an abundance of good stories of big-game hunting, slave traders, and natives and Europeans whom he has met in his twenty-nine years of experience as a missionary. His travels range from the Katanga and Angola to the shores of Lake Nyassa. His use of the word "Bantuland," not merely in his title but in the text, may be misleading to the uninitiated, as he does not deal with all Bantu peoples, but only with those within the limits mentioned. Even thus he is not always sufficiently explicit in mentioning the tribe to which a particular custom or belief appertains. Many of the peoples with whom he deals are but little known, and his careful description of their culture is a useful addition to our knowledge. His account of secret societies of various types is worthy of note. Mr. Campbell gives to native character a tribute of admiration which is well deserved, as is shown by instances of self-sacrifice and bravery, while he has much to say of the political sagacity and instinct for government displayed by some of the tribes and their chiefs.

The Technique of Psycho-Analysis. By Dr. David Forsyth. Pp. viii + 133. (London: Kegan Paul, Trench, Trübner and Co., Ltd., 1922.) 5s. net.

IN his book on the technique of psycho-analysis Dr. Forsyth deals, from the practical viewpoint, with a subject which is full of difficulties for the beginner in analytical work. The first chapter is devoted to a consideration of the analyst himself; the second deals with the conditions under which the treatment should proceed; the remaining four chapters discuss the actual analysis. Dream analysis is excluded as being too big a subject for discussion in such a book, and the reader is referred to Freud's "Interpretation of Dreams" for the study of this side of analytical treatment.

Dr. Forsyth gives much practical advice which is frequently omitted from literature on the theory and practice of psycho-analysis.